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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference SC0978EG/MAW	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/06753	International filing date (day/month/year) 25.06.2003	Priority date (day/month/year) 05.07.2002
International Patent Classification (IPC) or both national classification and IPC H04B17/00		
Applicant FREESCALE SEMICONDUCTOR, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 14 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 05.02.2004	Date of completion of this report 15.12.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office - Gitschiner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840	Authorized Officer Douglas, I Telephone No. +49 30 25901-470



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/06753**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1, 2, 4-9, 14, 16-18, 20-22, 24-29 as originally filed
3, 10-13, 15, 19, 23 received on 02.11.2004 with letter of 22.10.2004

Claims, Numbers

11-17, 27 (part), 28-42 as originally filed
1-10, 18-26, 27 (part) received on 02.11.2004 with letter of 22.10.2004

Drawings, Sheets

1/2-2/2 received on 02.11.2004 with letter of 22.10.2004

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	4-11,13-16,18-20,24-31,33-36,38-42
	No: Claims	1-3,12,17,21-23,32,37
Inventive step (IS)	Yes: Claims	9-11,29-31
	No: Claims	1-8,12-28,32-42
Industrial applicability (IA)	Yes: Claims	1-42
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following document:

D1: US-A-6 118 811 (CHEN RICKY Y ET AL) 12 September 2000 (2000-09-12)

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 to 3, 12, 17, 21 to 23, 32, 37 is not new in the sense of Article 33(2) PCT.

The document D1 (**fig 1; fig. 2; fig. 4; col. 5, line 60 to col. 6 line 54**) discloses (the references in parentheses applying to this document):

A method of gain calibration (**col. 6 lines 45 to 48**) for a transceiver having a transmitter unit and a receiver unit and including two feed back coupling paths from the transmitter unit to the receiver unit, the method comprising the steps of: setting a reference signal level of a feedback signal from the transmitter unit by adjusting characteristics of the transmitter unit in response to the measured signal level (**col. 5, line 60 to col. 6 line 8**);

measuring by a measurement unit, a measurement reference value associated with the reference signal level when sent via a first feed back coupling path (**col. 5 line 60 to col. 6, line 3**);

measuring, by a measurement unit, a signal level transmit on a second feed back coupling path from the transmitter unit via a receiver path (**col. 6 lines 21 to 27**);

changing a gain parameter of a transceiver unit of the transceiver by a gain step (**col. 6 lines 45 to 48**); and

measuring, by the measurement unit a gain adjusted feedback signal level of the second feedback coupling path (**col. 6 lines 45 to 48**);

the method characterised by the steps of:

determining an effect of the gain step on the feedback signal level relative to said measurement reference value (**col. 6 lines 45 to 48**); and

calibrating the gain step according to said relative effect of the gain step on the feedback signal (**col. 6 lines 45 to 48**).

- 2.2 The same objection applies to independent claim 21, which is the corresponding

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claim in another category.

- 2.3 D1 (col. 6 lines 45 to 48) discloses the calibration of the receiver gain as a function of AGC setting using a reference signal from the transmitter.

The subject-matter of claim 12 is therefore not considered to be new.

- 2.4 The same objection applies to claim 32, which is the corresponding claim in another category.
- 2.5 The additional features of claims 2, 3, 17, 22, 23, 37 are also known from D1. Therefore these claims do not meet the requirements of Articles 33(2) PCT with respect to novelty.

3. The present application does not meet the requirements of Article 33(3) PCT, because the subject matter of claims 4 to 8, 13 to 16, 18 to 20, 24 to 28, 33 to 36, 38 to 42 does not involve an inventive step.

- 3.1 Measuring the change in source signal level necessary to return to the desired output signal level after a change in gain is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed.

Therefore the subject matter of claims 4, 5, 6, 24, 25, 26 cannot be regarded as inventive.

- 3.2 The present application does not meet the requirements of Article 33(3) PCT, because the subject matter of claims 7, 8, 13 to 16, 18 to 20, 27, 28, 33 to 36, 38 to 42 does not involve an inventive step, because these claims concern features known to the person skilled in the art, such that no inventive merit can be attributed thereto.

4. The combination of the features contained in claim 9, 10 or 11, 29, 30 or 31 is neither known from, nor rendered obvious by, the available prior art.

INTERNATIONAL SEARCH REPORT

International Application No

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04B17/00 H04B1/38

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 6 118 811 A (CHEN RICKY Y ET AL) 12 September 2000 (2000-09-12)</p> <p>figure 1 figure 2 figure 4 column 1, line 6 - line 8 column 5, line 30 - column 6, line 54 --- -/--</p>	<p>1-8, 12-28, 32-42</p>

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

14 October 2003

Date of mailing of the international search report

14/11/2003

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INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>JARWALA M ET AL: "END-TO-END TEST STRATEGY FOR WIRELESS SYSTEMS" PROCEEDINGS OF THE INTERNATIONAL TEST CONFERENCE (ITC). WASHINGTON, OCT. 21 - 25, 1995, NEW YORK, IEEE, US, 21 October 1995 (1995-10-21), pages 940-946, XP000552900 ISBN: 0-7803-2992-9 figure 2 page 3, paragraph 9 -page 5, paragraph 2</p>	1-42

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International Publication No

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Patent document
cited in search report

Publication
date

Patent family
member(s)

Publication
date

US 6118811

A

12-09-2000

NONE